

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	Prior Application:
	)	
Roland DE LA METTRIE et al.	)	Group Art Unit: 1751
	)	
Application No.: 53(b)	)	Examiner: D. Hamlin
DIVISIONAL of Application No.	)	
09/319,201	)	
	)	
Divisional of U.S. National Stage	)	
Application of: PCT/FR98/02021 under	)	
35 U.S.C. § 371	)	
	)	
PCT Filed: September 22, 1998	)	
	)	
35 U.S.C. § 102(e) date: July 9, 1999	)	
	)	
Divisional Filed: May 11, 2001	)	
	)	
For: OXIDISING COMPOSITION FOR	)	
TREATING KERATIN FIBRES	)	
	)	

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

**PRELIMINARY AMENDMENT**

Prior to the examination of the above application, please amend this application  
as follows:

**IN THE SPECIFICATION:**

Amend the specification by inserting before the first line, the following new  
paragraph:

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-- This is a division of Application No. 09/319,201, filed July 9, 1999, which is the U.S. National Stage Application of PCT/FR98/02021, filed September 22, 1998, which claims the benefit of French Application No. 97/12363, filed October 3, 1997, all of which are incorporated herein by reference. --

**IN THE CLAIMS:**

Without prejudice or disclaimer, please cancel claims 1 to 29, and replace them with claims 30 to 53 as follows:

--30. (New) A ready-to-use composition for the oxidation dyeing of keratin fibers, comprising:

- (a) at least one enzyme chosen from 2-electron oxidoreductases,
- (b) at least one donor for said at least one enzyme,
- (c) at least one anionic surfactant chosen from:
  - (i) acylisethionates;
  - (ii) acyltaurates;
  - (iii) acylsarcosinates;
  - (iv) acylglutamates;
  - (v) polyoxyalkylenated carboxylic ether acids and salts thereof;
  - (vi) fatty glucamide sulphates;
  - (vii) alkylgalactoside uronates; and
  - (viii) anionic derivatives of alkylpolyglucoside; and
- (d) at least one oxidation base.

31. (New) The ready-to-use composition according to Claim 30, further comprising at least one coupler.

32. (New) The ready-to-use composition according to Claim 30, wherein said at least one oxidation base is chosen from para-phenylenediamines, double bases, ortho-aminophenols, para-aminophenols, heterocyclic bases, and acid-addition salts thereof.

33. (New) The ready-to-use composition according to Claim 30, wherein said at least one oxidation base is present in an amount ranging from 0.0005 to 12% by weight relative to the total weight of the composition.

34. (New) The ready-to-use composition according to Claim 31, wherein said at least one coupler is chosen from meta-phenylenediamines, meta-aminophenols, meta-diphenols, heterocyclic couplers, and acid-addition salts thereof.

35. (New) The ready-to-use composition according to Claim 31, wherein said at least one coupler is present in an amount ranging from 0.0001 to 10% by weight relative to the total weight of the composition.

36. (New) The ready-to-use composition according to Claim 32, wherein said acid-addition salts are chosen from hydrochlorides, hydrobromides, sulphates, tartrates, lactates and acetates.

37. (New) The ready-to-use composition according to Claim 34, wherein said acid-addition salts are chosen from hydrochlorides, hydrobromides, sulphates, tartrates, lactates and acetates.

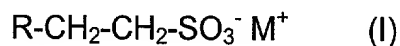
38. (New) A ready-to-use composition for oxidation dyeing of keratin fibers comprising:

(a) at least one enzyme chosen from 2-electron oxidoreductases, said at least one enzyme being chosen from pyranose oxidases, glucose oxidases, glycerol oxidases, lactate oxidases, pyruvate oxidases, and uricases;

(b) at least one donor for said enzyme, said at least one donor being chosen from D-glucose, L-sorbose, D-xylose, glycerol, dihydroxyacetone, lactic acid and its salts, pyruvic acid and its salts, and uric acid and its salts;

(c) at least one anionic surfactant chosen from:

(i) acylisethionates having the structure:



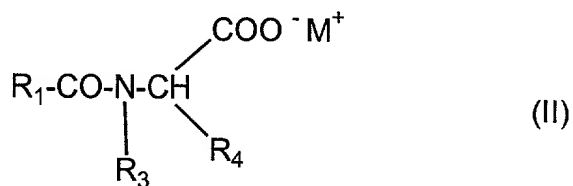
in which R denotes a group  $\text{R}_1\text{COO}$  wherein  $\text{R}_1$  is chosen from linear and branched, saturated and unsaturated  $\text{C}_8\text{-C}_{30}$  aliphatic groups, and  $\text{M}^+$  is chosen from a proton, an ammonium ion, a Na ion, a K ion, and cationic organic amine residues;

(ii) acyltaurates having the structure:



in which R denotes a group  $\text{R}_1\text{CONR}_2$  wherein  $\text{R}_1$  is chosen from linear and branched, saturated and unsaturated  $\text{C}_8\text{-C}_{30}$  aliphatic groups, and  $\text{R}_2$  is chosen from a hydrogen atom and  $\text{C}_1\text{-C}_4$  alkyl radicals, and  $\text{M}^+$  is chosen from a proton, an ammonium ion, a Na ion, a K ion and cationic organic amine residues;

(iii) acylsarcosinates having the structure:

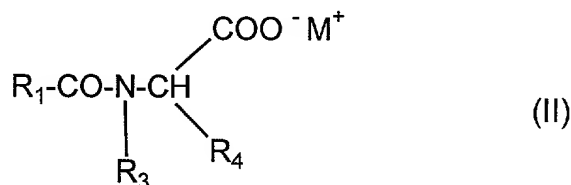


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wherein  $R_1$  is chosen from linear and branched, saturated and unsaturated  $C_8$ - $C_{30}$  aliphatic groups, and  $M^+$  is chosen from a proton, an ammonium ion, a Na ion, a K ion, and cationic organic amine residues;  $R_3$  denotes  $CH_3$  and  $R_4$  denotes hydrogen;

(iv) acylglutamates having the structure:



wherein  $R_1$  is chosen from linear and branched, saturated and unsaturated  $C_8$ - $C_{30}$  aliphatic groups, and  $M^+$  is chosen from a proton, an ammonium ion, a Na ion, a K ion, and cationic organic amine residues;  $R_3$  denotes hydrogen and  $R_4$  denotes  $CH_2CH_2COO^-M^+$ ;

(v) polyoxyalkylenated carboxylic ether acids and salts thereof having the structure:



in which:

$R_5$  is chosen from alkyl and alkylaryl groups and  $n$  is an integer or decimal number which ranges from 2 to 24;  $A$  is chosen from a proton, an ammonium ion, a Na ion, a K ion, a Li ion, a Mg ion, cationic monoethanolamine residues, and cationic triethanolamine residues;

- (vi) fatty glucamide sulphates;
- (vii) alkylgalactoside uronates; and
- (viii) anionic derivatives of alkylpolyglucoside chosen from

alkylpolyglucoside sulphates, alkylpolyglucoside sulphonates, alkylpolyglucoside ether carboxylates, alkylpolyglucoside sulphosuccinates, alkylpolyglucoside isethionates, and alkylpolyglucoside phosphates; and

(d) at least one oxidation base chosen from

- para-phenylenediamines chosen from para-phenylenediamine, para-toluylenediamine, 2-chloro-para-phenylenediamine, 2,3-dimethyl-para-phenylenediamine, 2,6-dimethyl-para-phenylenediamine, 2,6-diethyl-para-phenylenediamine, 2,5-dimethyl-para-phenylenediamine, N,N-dimethyl-para-phenylenediamine, N,N-diethyl-para-phenylenediamine, N,N-dipropyl-para-phenylenediamine, 4-amino-N,N-diethyl-3-methylaniline, N,N-bis( $\beta$ -hydroxyethyl)-para-phenylenediamine, 4-amino-N,N-bis( $\beta$ -hydroxyethyl)-2-methylaniline, 4-amino-2-chloro-N,N-bis( $\beta$ -hydroxyethyl)aniline, 2- $\beta$ -hydroxyethyl-para-phenylenediamine, 2-fluoro-para-phenylenediamine, 2-isopropyl-para-phenylenediamine, N-( $\beta$ -hydroxypropyl)-para-phenylenediamine, 2-hydroxymethyl-para-phenylenediamine, N,N-dimethyl-3-methyl-para-phenylenediamine, N,N-(ethyl- $\beta$ -hydroxyethyl)-para-phenylenediamine, N-( $\beta,\gamma$ -dihydroxypropyl)-para-phenylenediamine, N-(4'-aminophenyl)-para-phenylenediamine, N-phenyl-para-phenylenediamine, 2- $\beta$ -hydroxyethyloxy-para-phenylenediamine, 2- $\beta$ -acetylaminoethyloxy-para-phenylenediamine, N-( $\beta$ -methoxyethyl)-para-phenylenediamine, and acid-addition salts thereof;

- double bases chosen from N,N'-bis( $\beta$ -hydroxyethyl)-N,N'-bis(4'-aminophenyl)-1,3-diaminopropanol, N,N'-bis( $\beta$ -hydroxyethyl)-N,N'-bis(4'-aminophenyl)ethylenediamine, N,N'-bis(4'-aminophenyl)tetramethylenediamine, N,N'-bis( $\beta$ -hydroxyethyl)-N,N'-bis(4'-aminophenyl)tetramethylenediamine, N,N'-bis(4-methylaminophenyl)tetramethylenediamine, N,N'-bis(ethyl)-N,N'-bis(4'-amino-3'-methylphenyl)ethylenediamine, 1,8-bis(2,5-diaminophenoxy)-3,5-dioxaoctane, and acid-addition salts thereof;

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- ortho-aminophenols chosen from 2-aminophenol, 2-amino-5-methylphenol, 2-amino-6-methylphenol, 5-acetamido-2-aminophenol, and acid-addition salts thereof;

- para-aminophenols chosen from para-aminophenol, 4-amino-3-methylphenol, 4-amino-3-fluorophenol, 4-amino-3-hydroxymethylphenol, 4-amino-2-methylphenol, 4-amino-2-hydroxymethylphenol, 4-amino-2-methoxymethylphenol, 4-amino-2-aminomethylphenol, 4-amino-2-( $\beta$ -hydroxyethylaminomethyl)phenol, 4-amino-2-fluorophenol, and acid-addition salts thereof; and

- heterocyclic bases chosen from pyridine compounds, pyrimidine compounds, pyrazole compounds, pyrazolopyrimidine compounds, and acid-addition salts thereof.

39. (New) A ready-to-use composition for oxidation dyeing keratin fibers, comprising uricase, uric acid, triethanolamine cocylglutamate, para-phenylenediamine, resorcinol and monoethanolamine.

40. (New) A ready-to-use composition for oxidation dyeing keratin fibers, comprising uricase, uric acid, sodium lauroyl sarcosinate, para-phenylenediamine, resorcinol and monoethanolamine.

41. (New) A ready-to-use composition for oxidation dyeing keratin fibers, comprising uricase, uric acid, sodium cocoyl isethionate, para-phenylenediamine, resorcinol and monoethanolamine.

42. (New) A ready-to-use composition for oxidation dyeing keratin fibers, comprising uricase, uric acid, lauryl ether carboxylic acid, para-phenylenediamine, resorcinol and monoethanolamine.

43. (New) A process for dyeing keratin fibers, comprising:  
applying to said keratin fibers a composition, and  
developing for a period of time sufficient to achieve a desired coloration;  
wherein said composition comprises:

- (a) at least one enzyme chosen from 2-electron oxidoreductases,
- (b) at least one donor for said at least one enzyme,
- (c) at least one anionic surfactant chosen from:
  - (i) acylisethionates;
  - (ii) acyltaurates;
  - (iii) acylsarcosinates;
  - (iv) acylglutamates;
  - (v) polyoxyalkylenated carboxylic ether acids and salts thereof;
  - (vi) fatty glucamide sulphates;
  - (vii) alkylgalactoside uronates;
  - (viii) anionic derivatives of alkylpolyglucoside; and
- (d) at least one oxidation base.

44. (New) The process according to Claim 43, wherein said keratin fibers are human hair.

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45. (New) A process for dyeing keratin fibers, comprising:  
separately storing a first composition,  
separately storing a second composition,  
thereafter mixing said first composition with said second composition,  
applying said mixture to said fibers and  
developing for a period of time sufficient to achieve a desired coloration;  
wherein said first composition comprises at least one oxidation base;  
wherein said second composition comprises at least one enzyme chosen from  
2-electron oxidoreductases and at least one donor for said at least one enzyme;  
wherein at least one of said first composition and said second composition  
contains at least one anionic surfactant chosen from:

- (i) acylisethionates;
- (ii) acyltaurates;
- (iii) acylsarcosinates;
- (iv) acylglutamates;
- (v) polyoxyalkylenated carboxylic ether acids and salts thereof;
- (vi) fatty glucamide sulphates;
- (vii) alkylgalactoside uronates; and
- (viii) anionic derivatives of alkylpolyglucoside.

46. (New) A multi-compartment dyeing kit comprising at least two separate  
compartments, wherein

a first compartment contains a first composition, and  
a second compartment contains a second composition;  
wherein said first composition comprises at least one oxidation base;

wherein said second composition comprises at least one enzyme chosen from 2-electron oxidoreductases and at least one donor for said at least one enzyme;

wherein at least one of said first composition and said second composition contains at least one anionic surfactant chosen from:

- (i) acylisethionates;
- (ii) acyltaurates;
- (iii) acylsarcosinates;
- (iv) acylglutamates;
- (v) polyoxyalkylenated carboxylic ether acids and salts thereof;
- (vi) fatty glucamide sulphates;
- (vii) alkylgalactoside uronates; and
- (viii) anionic derivatives of alkylpolyglucoside.

47. (New) A process for permanently reshaping keratin fibers, comprising:  
applying a reducing composition to keratin fibers to be reshaped, the keratin fibers being placed under mechanical tension before, during or after said applying; and  
applying an oxidizing composition to the keratin fibers;  
said oxidizing composition comprising:

- (a) at least one enzyme chosen from 2-electron oxidoreductases,
- (b) at least one donor for said at least one enzyme, and
- (c) at least one anionic surfactant chosen from:

- (i) acylisethionates;
- (ii) acyltaurates;
- (iii) acylsarcosinates;
- (iv) acylglutamates;
- (v) polyoxyalkylenated carboxylic ether acids and salts thereof;

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- (vi) fatty glucamide sulphates;
- (vii) alkylgalactoside uronates; and
- (viii) anionic derivatives of alkylpolyglucoside.

48. (New) The process according to Claim 47, wherein said keratin fibers to be permanently reshaped are human hair.

49. (New) The process according to Claim 47, further comprising the step of rinsing the keratin fibers after said applying of said reducing composition.

50. (New) The process according to Claim 47, further comprising the step of rinsing the keratin fibers after said applying of said oxidizing composition.

51. (New) A process for bleaching keratin fibers, comprising the steps of:  
applying an oxidizing composition to keratin fibers to be bleached, and thereafter rinsing the keratin fibers;

said oxidizing composition comprising:

- (a) at least one enzyme chosen from 2-electron oxidoreductases,
- (b) at least one donor for said at least one enzyme, and
- (c) at least one anionic surfactant chosen from:
  - (i) acylisethionates;
  - (ii) acyltaurates;
  - (iii) acylsarcosinates;
  - (iv) acylglutamates;
  - (v) polyoxyalkylenated carboxylic ether acids and salts thereof;
  - (vi) fatty glucamide sulphates;

- (vii) alkylgalactoside uronates; and
- (viii) anionic derivatives of alkylpolyglucoside.

52. (New) The process according to Claim 51, wherein the oxidizing composition further comprises at least one auxiliary oxidizing agent.

53. (New) The process according to Claim 51, wherein said oxidizing composition comprises uricase, uric acid and monosodium lauroyl glutamate.--

#### **REMARKS**

Claims 30-53 are pending in this application, claims 1-29 having been canceled. Support for these new claims can be found throughout parent Application No. 09/319,201. Present claims 31-38 correspond to canceled claims 54-61 from the parent, and present claims 39-53 correspond to canceled claims 69-83 from the parent, respectively. Care has been taken so that no new matter has been introduced into this application.

Applicants earnestly seek the examination of this application and the speedy allowance of the pending claims.

If there is any fee due in connection with the filing of this Preliminary

Amendment, please charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

Dated: May 11, 2001

By: Michael Bair, Reg. No. 44,203  
for Jeremy M. Stipkala  
Reg. No. 44,359

FOR FSD 42925260

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